The #REF! error is caused by a missing reference. In the example shown in Figure 241, the formula references a sheet that has been deleted.

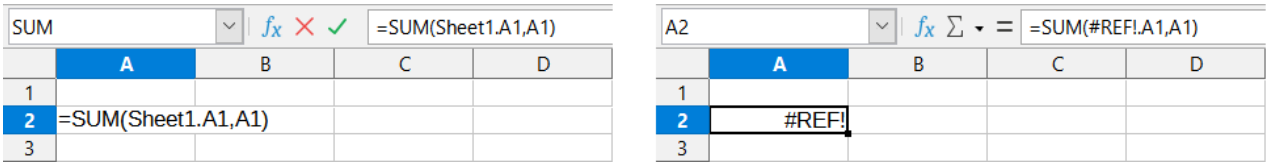


*Figure 241: Deleted sheet causing #REF! error*

## Color coding for input

Another useful tool when reviewing a formula is the color coding for input. When you select a formula that has already been entered, the cells or ranges used for each argument in the formula are outlined in color.

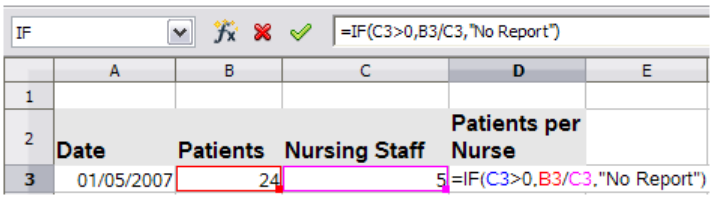


*Figure 242: Color coding for input*

Calc uses eight colors for outlining referenced cells, starting with blue for the first cell, and continuing with red, magenta, green, dark blue, brown, purple, and yellow before cycling through the sequence again.

### *Value highlighting*

There are situations where the display of cell contents is the same when the data type is different. For example a text contents and a numeric contents can look the same but can produce a mistake if both are used in some calculations. To illustrate, the string “10.35” right-aligned in a cell can be confused with the value 10.35. When the cell is used in a formula the string may take the value of zero and an error may be produced.

If you enable value highlighting (**View > Value Highlighting** or *Ctrl+F8*), Calc distinguishes the text and numeric data types by assigning different colors to the content’s characters. By default, the text contents is in black characters and the numeric contents is in blue. See Chapter 2, Entering, Editing, and Formatting Data, for more information on value highlighting.

## The Detective

In a long or complicated spreadsheet, color coding becomes less useful. In these cases, consider using the submenu under **Tools > Detective**. The Detective is a tool for checking which cells are used as arguments by a formula (precedents) and which other formulas it is nested in (dependents), and tracking errors. It can also be used for tracing errors, marking invalid data (that is, information in cells that is not in the proper format for a function’s argument), or even for removing precedents and dependents.

To use the Detective, select a cell with a formula, then select the required option from the **Tools > Detective** menu. On the spreadsheet, you will see lines ending in dots to indicate precedents, and lines ending in arrows for dependents. The lines show the flow of information.

Use the Detective to assist in following the precedents referred to in a formula in a cell. By tracing these precedents, you frequently can find the source of the errors. Place the cursor in the cell in question and then choose **Tools > Detective > Trace Precedents** from the Menu bar or press *Shift+F9*. Figure 243 shows a simple example of tracing precedents for cell B4.